

The First Tanks and Fate

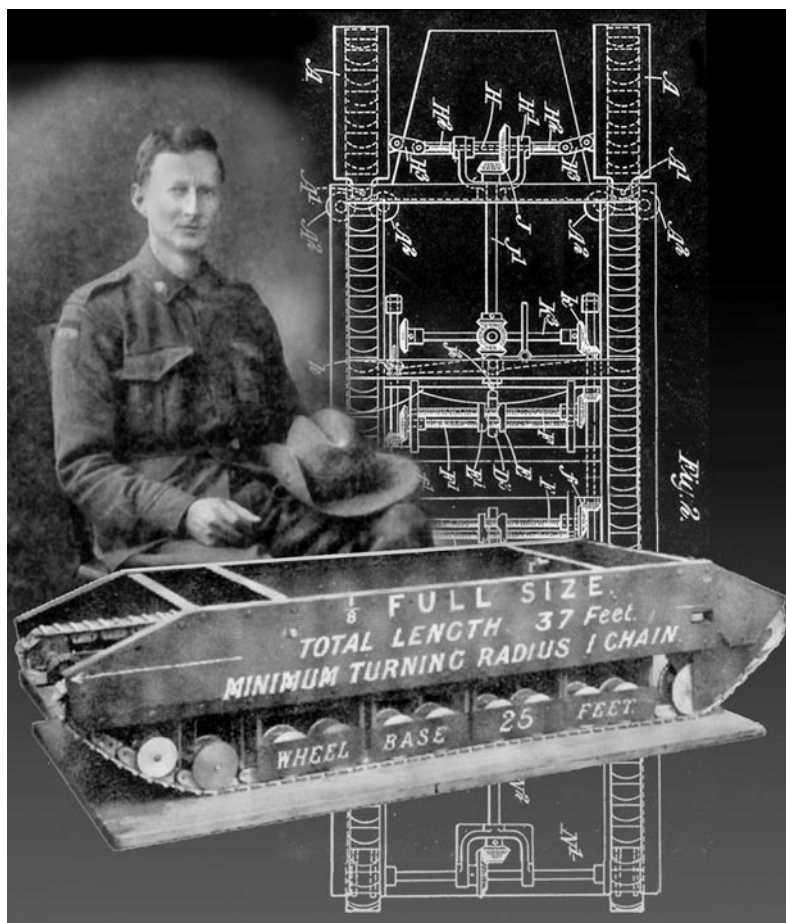
“The failure to exploit the potential of an original idea is a recurring problem throughout history...”

by Ken Wright

(Editor's Note: There are several claims to the development of the tank. In our January-February issue, Major Dennis Gaare explored the claim of the American inventor, Edwin Wheelock, and his "Skeleton Tank." The following story comes from an Australian author, describing the unsuccessful attempts by a countryman, Lancelot Eldin de Mole, to interest the British in what was, for its time, a revolutionary approach.)

The failure to exploit the potential of an original idea is a recurring problem throughout history. Take, for example, the development of the tank during WWI. By early 1915, the war on the Western Front had stalemated into static trench warfare, both sides wasting men and material to gain an advantage. Soldiers faced an impossible task, considering the way the generals of the time thought war should be conducted. Artillery barrages would be followed by long lines of men leaving the comparative safety of their trenches to charge across a strip of land to attack enemy trenches. They struggled into the murderous hail of machine gun and artillery fire, slowed by miles of barbed wire entanglements. The result was usually mass slaughter on a grand scale.

Then, a few days later, the opposition would carry out the same insane tactic with the same result, over a no man's land covered with shell holes and littered with corpses. No wonder Allied



A period photograph of Lancelot Eldin de Mole in his Australian Army uniform, the model of his tracked vehicle, and its blueprint are included in this montage by Jody Harmon.

Although a full size prototype was never built, de Mole came up with an unusual method of steering by curving the track path. His concept pre-dated the beginning of the First World War by two years and the first employment of the tank by four years.

General Headquarters in France was demanding a solution to trench warfare.

An accomplished writer for the British Army, Lieutenant Colonel Ernest Swinton, observed these early battles first-hand and wrote to his superiors that a gasoline-powered tractor on the caterpillar principle, with hardened steel plates, would be able to counter the effects of the machine gun. But General Sir John French and his scientific advisors rejected his proposal.

Fortunately, someone in power had a little more imagination, and that person was Winston Churchill, The First Sea Lord. In February 1915, he set up a "Landship Committee" to look into the possibility of developing the new war

machine Swinton had proposed. The committee commissioned Lieutenant W. E. Wilson of the Naval Air Service and William Tritton of William Foster and Company of Lincoln to construct a small "landship," their name for the concept. The work was carried out in great secrecy and the new war machine was code-named 'tank,' implying that it was a device for carrying fresh water. The first prototype was demonstrated to the Landship Committee on September 11, 1915, but its performance was disappointing: it could not cross broad

trenches. Wilson and Tritton immediately went back to work to design a better model. It was Wilson who came up with the idea of taking the tracks right around a body of rhomboid shape, pointed at the top and sloping down at the back. From that point, all work was concentrated on Wilson's design.

After much trial and error, the first crude British tanks were shipped to the Western Front and spearheaded the attack on the Somme on September 15, 1916. Historical records vary, but approximately 47 tanks were brought up for the attack, and only 11 actually got into battle. The long hoped-for decisive victory was not achieved despite the surprise and terror the new weapon caused the Germans, because the tanks were underpowered, unreliable, and too few in number.

The result may have been different if the ideas of an Australian inventor had been used when offered. Lancelot Eldin de Mole was born in Kent Town, South Australia, and by 1908 was a draftsman and inventor working on surveying and mining projects in several Australian states. (One of his early inventions was an automatic telephone system designed three years before a similar type was introduced in the United States. In a typical example of the failure to exploit a potentially good idea, the Australian Postal Department declined to even test it.)

De Mole, while working in the very rugged countryside of Western Australia, had the idea for a chain rail system of traction for use in heavy haulage. This idea led him to work on a design for a chain rail armored vehicle. He sent his sketches to the British War Office in 1912, two years before World War I broke out. Perhaps the design was too complicated for the British War Office. Or perhaps they saw no need for the invention at the time. They returned some of his sketches in 1913 with a letter rejecting his idea and the comment that they were no longer experimenting with chain rails.

For the technically minded, de Mole's design called for the front end of the tracks to be capable of pivoting left and right so that, as the machine proceeds, the links of the chain rail will be laid to the right or left of the path that the vehicle had been traveling. This forces the tracks to form a curve which, as the vehicle proceeds, will alter the direction of travel. As Richard Ogorkiewicz describes it in his *Technology of Tanks*,

"Curved track steering...involves bowing the tracks in the horizontal plane by pivoting some or all of the road wheels about vertical axes, or by displacing them sideways relative to each other. Curved track steering was proposed as early as 1912 by L.E. de Mole, although his ideas were not put into effect..."

After his rejection by the British, de Mole's friends urged him to try to sell his idea to the German consul in Western Australia, but he declined with the comment that they might one day be an enemy. The outbreak of WWI, in August 1914, proved him right. Along with many of his fellow countrymen, he answered the call to war, but his first attempt to enlist in the Australian Imperial Forces wasn't successful; the Army rejected him as too tall and delicate.

The war moved on, and the tanks took to the field of battle on the Somme in September, 1916. The Landship Committee and the development of the tank were, of course, unknown to de Mole. The new secret weapon only became common knowledge after the Somme battle.

De Mole had actually made a second, unsuccessful attempt to interest the British. Personal papers and official documents differ slightly about the exact date, but it is generally accepted that de Mole resubmitted his plans, based on the original ones from 1912, to the British Munitions Inventions Office around July or August, 1915. Even if he sent the plans early in 1916, the British authorities failed to pass his design on to the Landship Committee.

One can only speculate why the plans were not made available to the people who were working on the tank. It's quite possible the Munitions Inventions Office knew nothing of the Landship Committee because of the great secrecy that surrounded what they were doing, or perhaps there was some form of inter-departmental rivalry. Whatever the reason, an opportunity to explore a new perspective was wasted. De Mole received a letter suggesting that a working model must be provided to have any chance of consideration.

Not being the type to give up easily, de Mole tried to get the local South Australian Inventions Board interested in his idea. The official in charge could not understand the plans. The idea was rejected with the very poor excuse that the vehicle might fall into a hole on the battlefield.

De Mole had been thinking of a fleet of 500-1,000 armored vehicles with mounted guns that could be used to attack the enemy in overwhelming force, but the official could only think in ones. So much for imagination!

When the bitter fighting in the Somme was over and the secret of the tank common knowledge, de Mole realized his design was superior and had been ignored by the British authorities. By this time, in order to enlist, de Mole had gone on a special diet to improve his health and was finally allowed to join the Army in 1917. With financial backing from a friend, Lieutenant Harold Boyce, (later to become Sir Harold Boyce and Lord Mayor of London), de Mole had a one-eighth scale metal model constructed by the mechanical and electrical engineering firm of Williams and Benwell in Melbourne. Lieutenant Boyce managed to get Private de Mole assigned to him, and as they sailed from Melbourne on a troop ship, the model tank remained locked in the ship's orderly room under constant guard. As soon as they arrived in England, de Mole managed to get leave to take his model to the Munitions Inventions Office.

By now it was January 1918. His model passed the first test and he was asked to demonstrate it to a second committee. But just when it seemed he was actually getting somewhere, he became sick and was unable to follow up the second demonstration. When he returned in March to the Munitions Inventions Office, he found his model had been left in a basement. The letter from the first committee recommending his model to the Tank Board had not been passed on to the second committee.

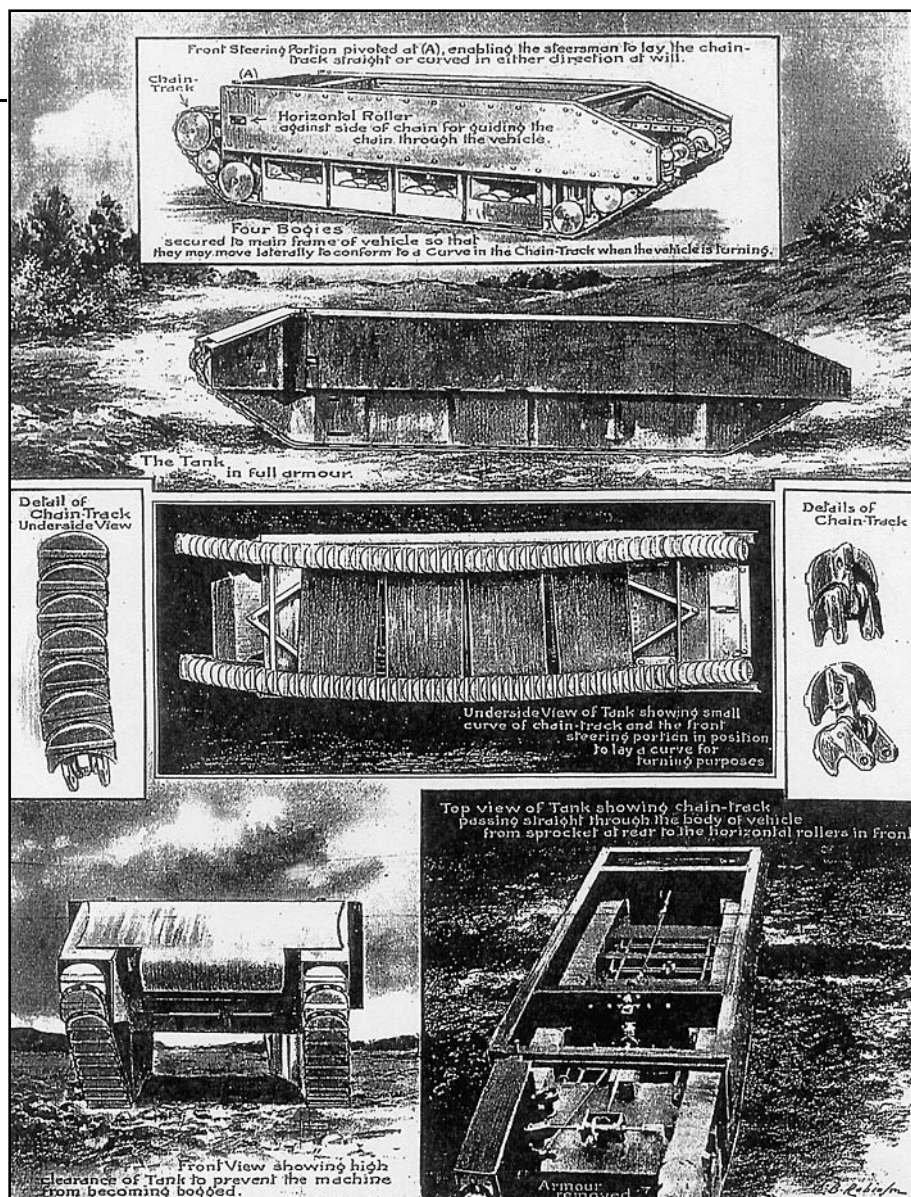
Before he could arrange a second demonstration, fate dealt him another body blow. At 9:40 a.m. on March the 21st, the Germans launched their spring offensive after a five-hour bombardment, striking a massive blow against the weak divisions of the British Third and Fifth Armies. De Mole was called back to active duty with the 10th Battalion and fought at Merris, Meteren, and Villers-Bretonneux.

He was to remain in France until the armistice, then returned to London to be demobilized. It was here that he heard about a Royal Commission being established to reward inventors for their contribution to the war effort. With regard to the area of tank development, de Mole, along with a few others, lodged his claim. In November 1919,

the Royal Commission handed down their findings. The credit for designing the tank actually used went to Wilson and Tritton, and they were jointly awarded 15,000 pounds — a nice little sum in those days. As to Lancelot Eldin de Mole's claim, the commissioners considered he was entitled to the greatest credit for having made and reduced to practical shape as far back as 1912, a brilliant invention, which anticipated, and, in some respects, surpassed that which was actually put into use in the year 1916. The commissioners went on to say that it was the claimant's misfortune, and not his fault, that his invention was in advance of its time, failed to be appreciated, and was put aside because the occasion for its use had not yet arisen. They regretted they were unable to recommend any award for him. A claimant must show casual connection between the making of his invention and the use of any similar invention by the Government. De Mole was, however, awarded 965 pounds for out-of-pocket expenses by the British Government.

De Mole's tank was more maneuverable than the early British variety, incorporating a mechanism that simplified its handling and enabled it to be steered in a comparatively sharp turn. It also had a climbing face at both the front and back, which enabled the tank to back out of trouble, something the early British tanks could not do. De Mole's invention looked good on paper and worked out what Wilson and Tritton had to work out the hard way. His plans did not include an engine or any form of armaments as he was convinced those things were better left up to the experts in those fields. Unfortunately, his ideas were never actually built and tested in a full-scale vehicle, so one can only speculate about what contribution, if any, his design would have had on the development of the early tanks.

After the war, the recently established Australian War Memorial sent de Mole a letter asking him if he would donate his model to the museum, which would include trophies and relics captured or acquired by Australian troops. It would also include a tank section, and the model would be a tribute to the inventive genius of Australians. The War Memorial, located in the Australian capital of Canberra, is one of the best in the world and de Mole's model is currently in the museum's Treloar Centre for Conservation.



In 1919, as debate developed over the credit for the invention of the tank, de Mole's claim made news in this London publication, which noted that his design "would have made a better tank" than the first tanks used at the Somme.

The Royal Commission decided that the award of £15,000 should go to Wilson and Tritton, who developed the Somme tank, but de Mole was awarded £965 to cover his expenses.

— Drawing by W.B. Robinson, *Illustrated London News*

Fate still deals de Mole a bad hand. Because his ideas were never put to the test in a full-sized vehicle, historians, past and present, tend to ignore him either out of ignorance or by selectively presenting their subject matter. Because of this deplorable treatment, his name and what he tried to achieve have been all but forgotten.

On the July 28, 1921, a grateful Australian Government placed him on the New Year's Honor List and awarded him with the C.B.E. After a long illness, Lancelot Eldin de Mole died in 1950.

References

- Personal Papers; Stephanie Hart, Anthea Fleming.
- De Mole Papers; Australian War Memorial Canberra.
- Archives; Australian War Memorial Canberra.

Ken Wright was a representative for a book publisher for 15 years, spent 13 years as a correctional officer, and 5 years in the Australian Army reserve, 4/19th Prince of Wales Light Horse, an armored recon regiment.